Patent claims

5   1.   Method for correcting the pixels of an x-ray image data set, comprising the following method steps:

-        acquisition of an x-ray exposure of an examination subject (4) with an x-ray apparatus that comprises a memory film (1) as an x-ray detector, which

10   memory film (1) comprises a memory luminophore layer, whereby the sensitivity of the memory luminophore layer changes with the accumulated x-ray dose that the memory luminophore layer is exposed to,

-        readout of the memory film (1) with a readout device (2) after the x-ray

15   exposure,

-        generation, from the data determined via the readout process, of an x-ray image data set associated with the x-ray exposure and

20   -   correction of each image point of the x-ray image data set with a correction value associated with the corresponding pixel, whereby each individual correction value is adapted based on the accumulated x-ray dose that the part of the memory film that is associated with the corresponding pixel of the x-ray image data set was exposed to before the x-ray exposure.

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2.   Method according to claim 1, in which the individual pixels $RB^m_{i,j}$ of the m-th x-ray image data set are corrected according to the following:

$$B^m_{i,j} = a * RB^m_{i,j} / EB^m_{i,j},$$

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whereby

a is a first scaling factor,

$RB_{i,j}^m$ is the signal of the pixel i, j of the m-th x-ray image data set,

5    $EB_{i,j}^m$ is the correction value for the pixel i, j of the m-th x-ray image data set and

$B_{i,j}^m$ is the signal of the pixel i, j of the m-th corrected x-ray image data set.

3.   Method according to claim 2, in which the accumulated x-ray dose $D_{i,j}^m$ for

the sub-region of the memory film (1) that is associated with the pixel i, j of the x-

10   ray image data set is determined according to the following relation for the m-th x-

ray image data set:

$$D_{i,j}^m = \sum_{n=1}^{m-1} b * B_{i,j}^n \, ,$$

15   whereby b is a second scaling factor.

4.   Method according to claim 3, in which the correction value $EB_{i,j}^m$ for the

pixel i, j of the m-th x-ray image data set is determined according to the following

relation:

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$$EB_{i,j}^m = EB_{i,j}^0 - s * \left(\sum_{n=1}^{m-1} b * B_{i,j}^n \right),$$

whereby s is a constant and $EB_{i,j}^0$ is the correction value that is associated with the

memory film without applied x-ray dose.